

CHAPTER 3

Iowa Fish and Wildlife

and

Species of Greatest Conservation Need

Required Element #1: “Information on the distribution and abundance of species of wildlife, including low and declining populations as the state fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the state’s wildlife.”

Species Included in the Iowa Wildlife Action Plan

The IDNR is the sole agency given the responsibility to manage Iowa's fish and wildlife resources, preserve their habitats (Code of Iowa, Chapter 455A), and establish and protect state-listed endangered or threatened species (chapter 481B.4 and Iowa Administrative Code Chapter 571-77(481B)). Iowa law defines *wildlife* as any species of wild mammal, fish, bird, reptile or amphibian (Code of Iowa sections 456.24, 481A.1, 481A.38, 481A.39, 481A.48). In addition to taxonomic groups designated as *wildlife* in Iowa law, this Plan is intended to guide conservation of all Iowa's native fauna for which an adequate level of information is available to assess the conservation status and needs. In the first version of the Plan, butterflies, land snails and fresh water mussels were included, because these invertebrates are listed on the state's endangered and threatened species list. Dragonflies and damselflies were added when significant data were found that listed the distribution and status of species in these groups. For the 2015 version, consideration was given to adding crayfish. A total of 1,115 species were evaluated by Subcommittees. Subcommittees considered all species which have been documented in Iowa, including some species which may be vagrant, expanding their range, have been introduced, or have already been extirpated (Table 3-1).

Determining the Species of Greatest Conservation Need

Taxonomic subcommittees of the IWAP Wildlife Working Group evaluated the status of all species considered for their focal group. The same status assessment criteria were used for all species which are native to Iowa, not already extirpated from the state, not vagrant or accidental in their occurrence within Iowa, and for which there is adequate information to assess conservation status. Until the implementation of the Wildlife Action Plan, Iowa had long lacked a systematic survey to document the distribution and abundance of most wildlife species. Therefore, varying amounts of information were

available for subcommittee members to use when assessing taxonomic groups, as a whole, as well as individual species.

Table 3-1. Number of species evaluated by the IWAP. IWAP taxonomic subcommittees evaluated all species with validated occurrence records for Iowa (includes vagrant species, exotic/introduced species, and those which are now presumed extirpated).

Taxonomic Class	Species	List location
Amphibians	22	Appendix 3
Reptiles	46	Appendix 4
Breeding birds	207	Appendix 5
Non-breeding birds ¹	206	Appendix 6
<i>All birds</i>	<i>413</i>	
Butterflies	124	Appendix 7
Crayfish	8	Appendix 8
Dragonflies and Damselflies	114	Appendix 9
Fish	155	Appendix 10
Mammals	85	Appendix 11
Mussels	52	Appendix 12
Terrestrial snails	96	Appendix 13
Total species evaluated	1,115	

¹Species that do not nest in Iowa but migrate through the state

Development of Species Status Assessment Criteria

We utilized 8 criteria to assess the conservation status of all native, extant Iowa wildlife species. An ad hoc working group of the Wildlife Working Group considered a variety of conservation status assessment schemes, from the published literature, before ultimately developing a set of criteria that could reasonably be utilized by each taxonomic subcommittee for assessing wildlife in Iowa. These included a species assessment methodology described by Partners in Flight, NatureServe's ranking system.

The system described in the PIF Handbook on Species Assessment (Panjabi et al. 2012) ranks each species of North American breeding bird based upon seven measures of conservation status:

1. *Population Size* (PS) indicates vulnerability due to the total number of adult individuals in the global population.
2. *Breeding Distribution* (BD) indicates vulnerability due to the geographic extent of a species' breeding range on a global scale.

3. *Non-breeding Distribution* (ND) indicates vulnerability due to the geographic extent of a species' non-breeding range on a global scale.
4. *Threats to Breeding* (TB) indicates vulnerability due to the effects of *current and probable future* extrinsic conditions that threaten the ability of populations to survive and successfully reproduce in breeding areas within North America.
5. *Threats to Non-breeding* (TN) indicates vulnerability due to the effects of *current and probable future* extrinsic conditions that threaten the ability of North American breeding populations to survive over the non-breeding season.
6. *Population Trend* (PT) indicates vulnerability due to the direction and magnitude of changes in population size within North America since the mid-1960's.

NatureServe's Ranking System (Faber-Langendoen et al. 2012), which is used by some state Natural Heritage Programs, also served as the basis for the approach used for this assessment. NatureServe does not independently create the State Ranks (S Ranks) that are listed in the IWAP or on NatureServe Explorer. Rather, NatureServe coordinates a network of State Natural Heritage Programs who submit their ranks periodically. NatureServe has recently moved to the use of a "rank calculator," which incorporates several factors. These are just starting to be used by the states, so looking up S Ranks on NatureServe Explorer <http://www.natureserve.org/explorer/> won't necessarily yield the results that reflect use of this calculator. Over time S Ranks will be increasingly based upon the use of the rank calculator. Factors included in NatureServe's Ranking System include:

Rarity:

1. Range Extent – defined as the area contained within an imaginary boundary encompassing all known, inferred, or projected sites of present occurrence of a taxon, excluding vagrancy.
2. Area of Occupancy – area within its "extent of occurrence" which is occupied by a taxon, excluding vagrancy.
3. Population – estimated current total of the species within the area of interest (IA)
4. Number of Occurrences – each occurrence is an area of land or water in which a species is or was present
5. Number of Occurrences or % Area with Good Viability – if current conditions prevail, the occurrence is likely to persist for the foreseeable future in its current condition or better
6. Environmental Specificity – degree to which a species depends upon a relatively scarce set of habitats, substrates, food types, or other biotic/abiotic factors within its overall range (this is to be used mostly when the # of occurrences, range extent or area of occupancy are largely unknown)

Trends:

1. Long-term Trend - degree of change over ~200 years (for area of interest) in population size, range extent, # of occurrences, and/or % area with good viability.
2. Short-term Trend – same as above, for 10 years or 3 generations, whichever is longer.

Threats:

1. Threats – incorporates information on severity, scope, impact and timing
2. Intrinsic Vulnerability – to be used when threats unknown

After discussing these assessment systems, the working group decided on 8 criteria that would be used to evaluate the species included in Iowa's Wildlife Action Plan (See Appendix 17 for a detailed description of the ranks associated with each of the following 8 criteria):

1. Global Range Extent (all other criteria are for Iowa only)
2. Area of Occupancy
3. Long-term Trend
4. Short-term Trend
5. Ecological Specialization (Population Concentration)
6. Dietary Specialization
7. General Ecological Specialization
8. Threat Not Addressed Above

The Scoring Process

The Wildlife Working Group developed a scoring process in which each criterion was weighted according to our understanding of the relative contribution of each factor to a species' overall conservation status. The theoretical potential score for an individual species ranges from 0 - 3.75. Calculated scores ranged from 0.57 (for the Slippershell mussel, which has not been observed in Iowa since 1984) to 3.75 (for several species of low conservation concern that have been expanding their range within Iowa). The cutoff value for SGCN designation was set at ≤ 3.0 (a species score of 3.0 or lower gave a species SGCN status). See Appendix 16 for a detailed explanation of the criteria.

The value of 3.0 (of a possible 3.75) was based on an understanding of how the individual criteria work and the mean species scores (2.96). Not all criteria were expected or intended to have normal distributions. For example, the *Range Extent* criterion exists to significantly reduce the score for the small number of Iowa species which have a global range of less than 40,000 square miles. This is because threats within the Iowa portion of a species' range, with a small overall range, pose greater risk to the species as a whole. Very few species scored a three or lower for this criterion.

Similarly, the *Ecological Specialization - Population Concentration* criterion is intended to highlight those species that aggregate at a small number of locations, and therefore could be at risk of extirpation given one disastrous event during the time period when the population is aggregated. This criterion was not relevant for most Iowa species. Rather, it served to reduce the scores for a small number of species which face this high-risk situation, regardless of their current trend and distribution. Thus, a hypothetical example of an 'average' SGCN species would have a restricted geographic range, occupy only a portion of its former range, be suffering moderate long- and short-term population declines, and be specialized with respect to population concentration, diet, or some other factor. Species with 2 or more fields that are unknown went into a separate "Data Deficient" (DD) category of species - for which information needs are high. These species will be SGCN-DD until such time as there is adequate

information to allow assessment of their conservation status. If a species has been extirpated from the state, it was also put into a separate category for further discussion. Examples include the Starhead Topminnow and the Pondmussel. This SGCN-E category was created because some extirpated species are better candidates for conservation efforts than others, depending on whether Iowa remains an important part of their range and whether their conservation status in other areas is stable.

A variety of data resources were utilized by taxonomic subcommittees as they considered which species should be listed as Species of Greatest Conservation Need. In general, the following types of resources were used (see *Specific Resources* section at the end of this chapter for a detailed list of resources):

- Published historic and scientific literature;
- Unpublished reports, scientific surveys and databases maintained by the IDNR fisheries, wildlife and water quality bureaus (e.g., Natural Areas Inventory, Multiple Species Inventory and Monitoring Program, Statewide Mussel Survey, Iowa Fish Atlas);
- Personal research and survey data supplied by wildlife ecologists at Iowa educational institutions;
- Museum and personal specimen collections;
- State and regional databases maintained by other conservation organizations (e.g. NatureServe, Partners In Flight, Partners for Amphibian and Reptile Conservation, US Fish and Wildlife Service, US Geological Survey, Iowa Ornithologist's Union, Iowa Audubon, etc.);
- Personal expertise of working group members and consultants.

Table 3-2. Proportion of Iowa Species Designated as SGCN.

Taxonomic Group	2012	2015			
	# of SGCN in 2012	# of SGCN in 2015	# Species Evaluated (Valid Iowa Records)	# of Species Assessed (Native Species)	% SGCN of Species Assessed
Amphibians	9	16	22	22	73%
Reptiles	23	40	46	46	87%
Birds – Breeding	67	78	207	195	40%
Birds – Non-breeding	18	34	206	113	30%
Butterflies	38	51	124	110	46%
Crayfish*	N/A	7	8	7	N/A
Dragonflies & Damselflies	28	30	114	106	28%
Fish	74	79	155	146	54%
Mammals	19	22	85	57	39%
Mussels	29	43	52	46	93%
Terrestrial Snails*	8	5	96	5	N/A
Total	313	405	1115	853	

* The entire groups of native Terrestrial Snails and Crayfish were not assessed for SGCN status due to lack of sufficient information.

Future Changes to List of SGCN

As research and monitoring progress, Iowa may find that the conservation status scores assigned to each species during the 2015 Comprehensive Review and Revision have changed. Also, Iowa may be able to complete the status assessment for species that were rated Data Deficient in 2015. This section outlines the process that would be undertaken to evaluate changes to the list of SGCN within taxonomic groups already included in the Plan prior to the next Comprehensive Review and Revision, scheduled for 2025.

Step 1: Taxonomic Subcommittee Completes Status Assessment

The taxonomic subcommittee for the relevant taxon would use the approved criteria to re-do the Species Status Assessment for the species in question (see Appendix 16).

Step 2: Wildlife Working Group Review and Notification to Fish and Wildlife Service

Once the Species Status Assessment process is completed, the results will be reviewed for approval by the Wildlife Working Group. If approved by the Wildlife Working Group, then the potential changes to the list of SGCN would be compiled for submittal to the US Fish and Wildlife Service (USFWS). The Director of IDNR would send a letter of intent to make minor revisions to the Plan to the USFWS Region 3 Coordinator of Wildlife and Sportfish Restoration (WSFR) Programs.

Step 3: Public Review and Submittal of Changes to Fish and Wildlife Service

Once the USFWS has been informed of Iowa's intent to complete a minor revision to the Plan, the list of species to be added to the SGCN category will be made available for public review and comment. After public input is considered and integrated, then the proposed changes to the list of SGCN will be submitted to the USFWS for review and approval.

Evaluation of Additional Taxonomic Groups

As additional information about Iowa wildlife becomes available through biological surveys and research, Iowa may consider evaluating other taxonomic groups for inclusion in the Plan. This section outlines the process that would be undertaken to evaluate any potential additional taxa prior to the Plan's next Comprehensive Review and Revision, scheduled for 2025.

Step 1: Completion of Nomination Form by Sponsor

The evaluation process begins when an interested party (hereafter, "sponsor") submits a form to the Wildlife Working Group of the Implementation Committee. The form is available on the IDNR's IWAP website and is included in the Plan as Appendix 17. The preferred taxonomic level for inclusion in the Plan is an entire order or sub-order of species known to occur within Iowa, but we will consider groups as small as complete genera occurring within Iowa. For that entire taxon, the form requests information such as the list of species with documented occurrences in Iowa, how long the taxon has been studied in Iowa and what portions of the state have been surveyed, a list of publications resulting from the work (if any), and a list of the primary people studying the taxon within Iowa (see Appendix 17).

Step 2: Wildlife Working Group-Sponsor Consultation

Once a completed nomination form has been received, members of the Wildlife Working Group will work with the sponsor to determine the feasibility of adding the taxon. Feasibility will depend on several issues: whether there are an adequate number of experts knowledgeable about the taxon to develop a taxon-specific subcommittee, whether there are potential sources of funding for research and conservation projects for the taxon, and whether established monitoring protocols for the taxon can be integrated into the Multiple Species Inventory and Monitoring (MSIM) program.

Step 3: Species Status Assessment

If the sponsor and the Wildlife Working Group determine that inclusion of the taxon is feasible, then a taxon-specific subcommittee will be formed. The subcommittee will complete a Species Status Assessment process. To be included in the Plan, all Iowa species within the taxonomic group will need to have the Species Status Assessment Scoring Criteria completed (see

Appendix 16.) This forms the basis for determining which species would be listed as SGCN, as discussed above. If two or more criteria are unknown for a given species, that species will be placed in the “Data Deficient” category of SGCN.

Step 4: Wildlife Working Group Review and Notification to Fish and Wildlife Service

Once the Species Status Assessment process is completed, the results will be reviewed for approval by the Wildlife Working Group. If approved by the Wildlife Working Group, then the potential changes to the list of SGCN would be compiled for submittal to the US Fish and Wildlife Service (USFWS). The Director of IDNR would send a letter of intent to make minor revisions to the Plan to the USFWS Region 3 Coordinator of Wildlife and Sportfish Restoration (WSFR) Programs.

Step 5: Public Review and Submittal of Changes to Fish and Wildlife Service

Once the USFWS has been informed of Iowa’s intent to complete a minor revision to the Plan, the list of species to be added to the SGCN category will be made available for public review and comment. After public input is considered and integrated, then the proposed changes to the list of SGCN will be submitted to the USFWS for review and approval.

Table 3-3. Amphibians of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	Iowa Rank/Listing	National Rank
1	Blue-spotted Salamander	<i>Ambystoma laterale</i>	S1 Endangered	N5
2	Smallmouth Salamander	<i>Ambystoma texanum</i>	S3	N5
3	Tiger Salamander	<i>Ambystoma tigrinum</i>	S5	N5
4	Common Mudpuppy	<i>Necturus maculosus</i>	S2 Threatened	N5
5	Eastern Newt	<i>Notophthalmus viridescens</i>	S2 Threatened	N5
6	Great Plains Toad	<i>Anaxyrus cognatus</i>	S4	N5
7	Fowler's Toad	<i>Anaxyrus fowleri</i>	S3	N5
8	Woodhouse's Toad	<i>Anaxyrus woodhousii</i>	S3	N5
9	Blanchard's Cricket Frog	<i>Acris crepitans</i>	S3?	N5
10	Cope's Gray Treefrog	<i>Hyla chrysoscelis</i>	S4	N5
11	Eastern Gray Treefrog	<i>Hyla versicolor</i>	S4	N5
12	Crawfish Frog	<i>Lithobates areolatus</i>	S1 Endangered	N4
13	Pickerel Frog	<i>Lithobates palustris</i>	S4	N5
14	Northern Leopard Frog	<i>Lithobates pipiens</i>	S5	N5
15	Southern Leopard Frog	<i>Lithobates sphenoccephalus</i>	S4	N5
16	Plains Spadefoot	<i>Spea bombifrons</i>	S4	N5

Table 3-4. Reptiles of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

B =breeding population, N = non-breeding population (breeds outside of the state or nation)

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	State Rank/Listing	National Rank/Listing
1	Snapping Turtle	<i>Chelydra serpentina</i>	S5	N5
2	Blanding's Turtle	<i>Emydoidea blandingii</i>	S3 Threatened	N4
3	Wood Turtle	<i>Glyptemys insculpta</i>	S1 Endangered	N3
4	Northern Map Turtle	<i>Graptemys geographica</i>	S4	N5
5	Southern Map Turtle	<i>Graptemys ouachitensis</i>	S4	N5
6	False Map Turtle	<i>Graptemys pseudogeographica</i>	S4	N5
7	Ornate Box Turtle	<i>Terrapene ornata</i>	S2 Threatened	N5
8	Yellow Mud Turtle	<i>Kinosternon flavescens</i>	S1 Endangered	N5
9	Eastern Musk Turtle	<i>Sternotherus odoratus</i>	S2 Threatened	N5
10	Smooth Softshell	<i>Apalone mutica</i>	S4	N5
11	Spiny Softshell	<i>Apalone spinifera</i>	SNR	N5
12	Slender Glass Lizard	<i>Ophisaurus attenuatus</i>	S1 Threatened	N5
13	Common Five-lined Skink	<i>Plestiodon fasciatus</i>	S4	N5
14	Great Plains Skink	<i>Plestiodon obsoletus</i>	S1 Endangered	N5
15	Prairie Skink	<i>Plestiodon septentrionalis</i>	S3	N5
16	Six-Lined Racerunner	<i>Aspidocelis sexlineatus</i>	S3	N5
17	Western Worm Snake	<i>Carphophis vermis</i>	S2 Threatened	N5
18	(Prairie) Ringneck Snake	<i>Diadophis punctatus</i>	S5	N5
19	Western (Plains) Hog-nosed Snake	<i>Heterodon nasicus</i>	S1 Endangered	N5

	Common Name	Scientific Name	State Rank/Listing	National Rank/Listing
20	Eastern Hognose Snake	<i>Heterodon platirhinos</i>	S4	N5
21	Prairie Kingsnake	<i>Lampropeltis calligaster</i>	S3	N5
22	Speckled Kingsnake	<i>Lampropeltis holbrooki</i>	S1 Threatened	N5
23	*Plainbelly (Copperbelly) Water Snake	<i>Nerodia erythrogaster</i>	S1 Endangered	N5 Threatened
24	Diamondback Water Snake	<i>Nerodia rhombifer</i>	S2 Threatened	N5
25	Common Water Snake	<i>Nerodia sipedon</i>	S5	N5
26	Smooth Green Snake	<i>Opheodrys vernalis</i>	S3 Special Concern	N5
27	Western Rat Snake	<i>Elaphe obsoleta</i>	S4	N5
28	Western Fox Snake	<i>Pantherophis ramspotti</i>	S4	N5
29	Gopher (Bull) Snake	<i>Pituophis catenifer</i>	S3 Special Concern	N5
30	Graham's Crayfish Snake	<i>Regina grahamii</i>	S4	N5
31	(Northern) Redbelly Snake	<i>Storeria occipitomaculata</i>	S3	N5
32	Western Ribbon Snake	<i>Thamnophis proximus</i>	S5	N5
33	Plains Garter Snake	<i>Thamnophis radix</i>	S5	N5
34	Lined snake	<i>Tropidoclonion lineatum</i>	S4	N5
35	Smooth Earthsnake	<i>Virginia valeriae</i>	S3	N5
36	Copperhead	<i>Agkistrodon contortrix</i>	S1 Endangered	N5
37	Timber Rattlesnake	<i>Crotalus horridus</i>	S3	N4
38	Prairie Rattlesnake	<i>Crotalus viridis</i>	S1 Endangered	N5
39	Eastern Massasauga	<i>Sistrurus catenatus</i>	S1	N3 Candidate
40	Western Massasauga	<i>Sistrurus turgeminus</i>	SNR	N3N4 Candidate

* The Copperbelly Water Snake (*Nerodia erythrogaster neglecta*) was renamed Plainbelly Water Snake (*Nerodia erythrogaster*) after the subspecies designation was removed. However, the Copperbelly Water Snake (*Nerodia erythrogaster neglecta*) is still federally listed as threatened (status not yet updated to show recent taxonomic name change).

Table 3-5. Breeding Birds of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

B =breeding population, N = non-breeding population (breeds outside of the state or nation)

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	Iowa Rank/Listing	National Rank/Listing
1	Trumpeter Swan	<i>Cygnus buccinator</i>	S2B	N4B, N4N
2	American Wigeon	<i>Anas americana</i>	S2B, S5N	N5B, N5N
3	Blue-winged Teal	<i>Anas discors</i>	S4B, S5N	N5B, N5N
4	Northern Pintail	<i>Anas acuta</i>	S2B, S5N	N5B, N5N
5	Canvasback	<i>Aythya valisineria</i>	S2B, S4N	N5B, N5N
6	Redhead	<i>Aythya americana</i>	S2B, S4N	N5B, N5N
7	Ring-necked Duck	<i>Aythya collaris</i>	S4N	N5B, N5N
8	Lesser Scaup	<i>Aythya affinis</i>	S5N	N5B, N5N
9	Northern Bobwhite	<i>Colinus virginianus</i>	S5B	N5
10	Ruffed Grouse	<i>Bonasa umbellus</i>	S4B	N5
11	Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>	S1B Presumed Extirpated	N4
12	Greater Prairie-Chicken	<i>Tympanuchus cupido</i>	S1B	N4
13	Red-necked Grebe	<i>Podiceps grisegena</i>	S2N	N5B, N5N
14	Eared Grebe	<i>Podiceps nigricollis</i>	S2N	N5B, N5N
15	American White Pelican	<i>Pelecanus erythrorhynchos</i>	SXB, S4N	N4
16	American Bittern	<i>Botaurus lentiginosus</i>	S2B	N4B, N4N
17	Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	S3B, S3N	N5B, N5N
18	White-faced Ibis	<i>Plegadis chihi</i>	SNR	N4B, N4N
19	Bald Eagle	<i>Haliaeetus leucocephalus</i>	S3B, S3N Special Concern	N5B, N5N
20	Northern Harrier	<i>Circus cyaneus</i>	S2B, S4N Endangered	N5B, N5N
21	Red-shouldered Hawk	<i>Buteo lineatus</i>	S2B Endangered	N5B, N5N
22	Broad-winged Hawk	<i>Buteo platypterus</i>	S3B	N5B
23	Swainson's Hawk	<i>Buteo swainsoni</i>	S3B, S3N	N5B

	Common Name	Scientific Name	Iowa Rank/Listing	National Rank/Listing
24	King Rail	<i>Rallus elegans</i>	S1N Endangered	N4B, N4N
25	Common Gallinule (formerly Moorhen)	<i>Gallinula chloropus</i>	S2B, S2N	N5B, N5N
26	Piping Plover	<i>Charadrius melodus</i>	S1B Endangered	N3B, N3N Endangered
27	Upland Sandpiper	<i>Bartramia longicauda</i>	S3B	N5B
28	Wilson's Snipe	<i>Gallinago delicata</i>	S2B, S5N	N5B, N5N
29	American Woodcock	<i>Scolopax minor</i>	S4B, S5N	N5B, N5N
30	Wilson's Phalarope	<i>Phalaropus tricolor</i>	S3N	N5B
31	Franklin's Gull	<i>Larus pipixcan</i>	S4N	N4B
32	Least Tern	<i>Sterna antillarum</i>	S1B Endangered	N4B Endangered
33	Black Tern	<i>Chlidonias niger</i>	S1B, S4N Special Concern	N4B
34	Forster's Tern	<i>Sterna forsteri</i>	S2B, S3N Special Concern	N5B, N5N
35	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	S3B	N5B
36	Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	S3B	N5B
37	Barn Owl	<i>Tyto alba</i>	S1B Endangered	N5
38	Eastern Screech-owl	<i>Otus asio</i>	S4B, S4N	N5
39	Burrowing Owl	<i>Speotyto cunicularia</i>	SNR	N4B, N4N
40	Long-eared Owl	<i>Asio otus</i>	S2B, S3N Threatened	N5B, N5N
41	Short-eared Owl	<i>Asio flammeus</i>	S1B, S2N Endangered	N5B, N5N
42	Common Nighthawk	<i>Chordeiles minor</i>	S5B	N5B
43	Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	S3B	N5B, NNRN
44	Eastern Whip-poor-will	<i>Caprimulgus vociferus</i>	S5B	N5B, NNRN
45	Chimney Swift	<i>Chaetura pelagica</i>	S5B	N5B
46	Belted Kingfisher	<i>Ceryle alcyon</i>	S4B	N5B, N5N
47	Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>	S5B	N5B, N5N
48	Northern Flicker	<i>Colaptes auratus</i>	S5B	N5B, N5N
49	American Kestrel	<i>Falco sparverius</i>	S5B, S5N	N5B, N5N
50	Peregrine Falcon	<i>Falco peregrinus</i>	S1B Special Concern	N4B, N4N
51	Eastern Wood-pewee	<i>Contopus virens</i>	S4B, S4N	N5B
52	Acadian Flycatcher	<i>Empidonax virescens</i>	S3B, S3N	N5B
53	Say's Phoebe	<i>Sayornis saya</i>	S2B, S3N	N4N, N5B
54	Eastern Kingbird	<i>Tyrannus tyrannus</i>	S5B, S5N	N5B
55	Loggerhead Shrike	<i>Lanius ludovicianus</i>	S3B, S3N	N4
56	Bell's Vireo	<i>Vireo bellii</i>	S3B, S4N	N4B
57	Horned Lark	<i>Eremophila alpestris</i>	S5B, S5N	N5B, N5N

	Common Name	Scientific Name	Iowa Rank/Listing	National Rank/Listing
58	Purple Martin	<i>Progne subis</i>	S5B, S5N	N5B
59	Bank Swallow	<i>Riparia riparia</i>	S5B, S5N	N5B
60	Sedge Wren	<i>Cistothorus platensis</i>	S4B, S4N	N4B, N5N
61	Bewick's Wren	<i>Thryomanes bewickii</i>	S2B, S2N	N5B
62	Veery	<i>Catharus fuscescens</i>	S3N	N5B
63	Wood Thrush	<i>Hylocichla mustelina</i>	S4B, S4N	N5B
64	Brown Thrasher	<i>Toxostoma rufum</i>	S5B, S5N	N5
65	Worm-eating Warbler	<i>Helmitheros vermivorus</i>	S2B, S2N	N5B
66	Golden-winged Warbler	<i>Vermivora chrysoptera</i>	S1N	N4B
67	Prothonotary Warbler	<i>Protonotaria citrea</i>	S3B, S3N	N5B
68	Kentucky Warbler	<i>Geothlypis formosus</i>	S1B, S3N	N5B
69	Common Yellowthroat	<i>Geothlypis trichas</i>	S5B, S5N	N5
70	Cerulean Warbler	<i>Setophaga cerulea</i>	S2B, S3N	N4B
71	Field Sparrow	<i>Spizella pusilla</i>	S5B, S5N	N5
72	Grasshopper Sparrow	<i>Ammodramus savannarum</i>	S4B, S4N	N5B, N5N
73	Henslow's Sparrow	<i>Ammodramus henslowii</i>	S3B, S2N Threatened	N3B, N4N
74	Dickcissel	<i>Spiza americana</i>	S4B, S4N	N5B
75	Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	N5B
76	Eastern Meadowlark	<i>Sturnella magna</i>	S4B, S4N	N5
77	Western Meadowlark	<i>Sturnella neglecta</i>	S4B, S4N	N5
78	Baltimore Oriole	<i>Icterus galbula</i>	S5B, S5N	N5B

Table 3-6. Non-breeding Birds of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

B =breeding population, N = non-breeding population (breeds outside of the state or nation)

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	Iowa Rank	National Rank/Listing
1	Greater Scaup	<i>Aythya marila</i>	S2N	N5B, N5N
2	Common Loon	<i>Gavia immer</i>	SXB, S4N	N4B, N5N
3	Little Blue Heron	<i>Egretta caerulea</i>	S2N	N5B, N5N
4	Yellow Rail	<i>Coturnicops noveboracensis</i>	SNA	N3B, N4N
5	Black Rail	<i>Laterallus jamaicensis</i>	SNR	N3B, N3N
6	Whooping Crane	<i>Grus americana</i>	SXB	N1N Endangered
7	Black-bellied plover	<i>Pluvialis squatarola</i>	S4N	N5B, N5N
8	American Golden-Plover	<i>Pluvialis dominica</i>	S5N	N5B
9	Lesser Yellowlegs	<i>Tringa flavipes</i>	S5N	N5B, N5N
10	Whimbrel	<i>Numenius phaeopus</i>	S1N	N5B, N5N
11	Long-billed Curlew	<i>Numenius americanus</i>	SXB	N5B, N5N
12	Hudsonian Godwit	<i>Limosa haemastica</i>	S3N	N3?B
13	Marbled Godwit	<i>Limosa fedoa</i>	SXB	N5B, N5N
14	Ruddy Turnstone	<i>Arenaria interpres</i>	SNA	N5B, N5N
15	Red Knot	<i>Calidris canutus</i>	SNR	N2N3B, N3N Threatened
16	Sanderling	<i>Calidris alba</i>	S3N	N4B, N5N
17	Semipalmated Sandpiper	<i>Calidris pusilla</i>	S4N	N5B
18	White-rumped Sandpiper	<i>Calidris fuscicollis</i>	S4N	N3B
19	Pectoral Sandpiper	<i>Calidris melanotos</i>	S4N	N5B
20	Stilt Sandpiper	<i>Micropalama himantopus</i>	S4N	N3B, N4N
21	Buff-breasted Sandpiper	<i>Tryngites subruficollis</i>	S3N	N4B
22	Short-billed Dowitcher	<i>Limnodromus griseus</i>	S4N	N5B, N5N
23	Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	SNR	N5B, N5N
24	Caspian Tern	<i>Sterna caspia</i>	S3N	N4N5B, N4N
25	Olive-sided Flycatcher	<i>Contopus cooperi</i>	S3N	N4B

	Common Name	Scientific Name	Iowa Rank	National Rank/Listing
26	Sprague's pipit	<i>Anthus spragueii</i>	SNR	N4B, N4N Candidate
27	Bohemian Waxwing	<i>Bombycilla garrulus</i>	S2N	N5B, N5N
28	Smith's Longspur	<i>Calcarius pictus</i>	SNR	N4B, N5N
29	Bay-breasted Warbler	<i>Dendroica castanea</i>	S2N	N5B
30	Canada Warbler	<i>Cardellina canadensis</i>	S3N	N5B
31	American Tree Sparrow	<i>Spizella arborea</i>	S5N	N5B, N5N
32	Le Conte's Sparrow	<i>Ammodramus leconteii</i>	SNA	N3B, N4N
33	Harris's Sparrow	<i>Zonotrichia querula</i>	S4N	N5N
34	White-winged Crossbill	<i>Loxia leucoptera</i>	S2N	N5

Table 3-7. Butterflies of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	Iowa Rank/Listing	National Rank/Listing
1	Pipevine Swallowtail	<i>Battus philenor</i>	S3 Special Concern	N5
2	Zebra Swallowtail	<i>Eurytides marcellus</i>	S1 Special Concern	N5
3	Spicebush Swallowtail	<i>Papilio troilus</i>	SNR	N4?
4	Olympia Marble	<i>Euchloe olympia</i>	S3 Special Concern	N4N5
5	Harvester	<i>Feniseca tarquinius</i>	S2	N4
6	Purplish Copper	<i>Lycaena helloides</i>	S3 Special Concern	N5
7	Acadian Hairstreak	<i>Satyrium acadica</i>	S3 Special Concern	N5
8	Edward's Hairstreak	<i>Satyrium edwardsii</i>	S3 Special Concern	N4
9	Hickory Hairstreak	<i>Satyrium caryaevorum</i>	S3 Special Concern	N4
10	Striped Hairstreak	<i>Satyrium liparops</i>	S3 Special Concern	N5
11	White M. Hairstreak	<i>Parrhasius m-album</i>	SNR	N5
12	Henry's Elfin	<i>Callophrys henrici</i>	S3	N5
13	Reakirt's Blue	<i>Echinargus (Hemiargus)</i>	SNR	N5
14	Silvery Blue	<i>Glaucopsyche lygdamus</i>	S3 Threatened	N5
15	Melissa Blue	<i>Plebejus (Lycaeides) melissa</i>	S3	N5
16	Aphrodite Fritillary	<i>Speyeria aphrodite</i>	S4	N5
17	Regal Fritillary	<i>Speyeria idalia</i>	S2 Special Concern	N3
18	Silver-bordered Fritillary	<i>Boloria selene</i>	S3	N5

	Common Name	Scientific Name	Iowa Rank/Listing	National Rank/Listing
19	Gorgone Checkerspot	<i>Chlosyne gorgone</i>	S4	N5
20	Baltimore Checkerspot	<i>Euphydryas phaeton</i>	S2 Threatened	N4
21	'Ozark' Baltimore Checkerspot	<i>Euphydryas phaeton ozarkae</i>	SNR Threatened	N3
22	Compton Tortoiseshell	<i>Nymphalis vaualbum</i> (I-	SNR	N5
23	Common Ringlet	<i>Coenonympha tullia</i>	S1 Endangered	N5
24	Eyed Brown	<i>Satyrodes eurydice</i>	S4	N4
25	Monarch	<i>Danaus plexippus</i>	S5?	N2N3
26	Southern Cloudywing	<i>Thorybes bathyllus</i>	S4	N5
27	Hayhurst's Scallopwing	<i>Staphylus hayhurstii</i>	SNR	N5
28	Dreamy Duskywing	<i>Erynnis icelus</i>	S3 Special Concern	N5
29	Sleepy Duskywing	<i>Erynnis brizo</i>	S3 Special Concern	N5
30	Juvenal's Duskywing	<i>Erynnis juvenalis</i>	S4	N5
31	Mottled Duskywing	<i>Erynnis martialis</i>	S3	N3
32	Columbine Duskywing	<i>Erynnis lucilius</i>	S3 Special Concern	N4
33	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	S1 Threatened	N1 Endangered
34	Ottoe Skipper	<i>Hesperia ottoe</i>	S2 Special Concern	N3N4
35	Leonard's Skipper	<i>Hesperia leonardus</i>	S3 Special Concern	N4
36	Dakota Skipper	<i>Hesperia dacotae</i>	S1 Endangered	N2 Threatened
37	Crossline Skipper	<i>Polites origines</i>	S4	N4N5
38	Long Dash	<i>Polites mystic</i>	S4	N5
39	Northern Broken-dash	<i>Wallengrenia egeremet</i>	S4	N5
40	Little Glassywing	<i>Pompeius verna</i>	S4	N5
41	Arogos Skipper	<i>Atrytone arogos</i>	S2 Special Concern	N3
42	Byssus Skipper	<i>Problema byssus</i>	S2 Threatened	N3N4
43	Mulberry Wing	<i>Poanes massasoit</i>	S2 Threatened	N4
44	Broad-winged Skipper	<i>Poanes viator</i>	S3 Special Concern	N5
45	Dion Skipper	<i>Euphyes dion</i>	S3 Special Concern	N4
46	Black Dash	<i>Euphyes conspicua</i>	S4	N4

	Common Name	Scientific Name	Iowa Rank/Listing	National Rank/Listing
47	Two-spotted Skipper	<i>Euphyes bimacla</i>	S3 Special Concern	N4
48	Dusted Skipper	<i>Atrytonopsis hianna</i>	S3 Special Concern	N4N5
49	Pepper and Salt Skipper	<i>Amblyscirtes hegon</i>	SNR Special Concern	N5
50	Common Roadside-skipper	<i>Amblyscirtes vialis</i>	S3	N4
51	Swarthy Skipper	<i>Nastra lherminier</i>	SNR	N5

Table 3-8. Crayfish of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). SNR = Not Ranked in State. For additional definitions and explanation see Appendix 11.

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	Iowa Rank/Listing	National Rank/Listing
1	Devil Crayfish	<i>Cambarus diogenes</i>	SNR	N5
2	Calico Crayfish	<i>Orconectes immunis</i>	SNR	N5
3	Golden Crayfish	<i>Orconectes luteus</i>	SNR	N5
4	Northern Clearwater Crayfish	<i>Orconectes propinquus</i>	SNR	N5
5	Virile Crayfish	<i>Orconectes virilis</i>	SNR	N5
6	Prairie Crayfish	<i>Procambarus gracilis</i>	SNR	N5
7	White River Crayfish	<i>Procambrus acutus</i>	SNR	NNR

Table 3-9. Dragonflies and Damselflies of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

B =breeding population, N = non-breeding population (breeds outside of the state or nation)

Iowa Listing: As of 2015, no dragonflies or damselflies are listed in threatened or endangered categories. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	Iowa Rank	National Rank
1	Spotted Spreadwing	<i>Lestes congener</i>	S2	N5
2	Amber-winged Spreadwing	<i>Lestes eurinus</i>	S3	N4
3	Sweetflag Spreadwing	<i>Lestes forcipatus</i>	S1	N5
4	Paiute Dancer	<i>Argia alberta</i>	S2	N4
5	Springwater Dancer	<i>Argia plana</i>	S3	N5
6	Prairie Bluet	<i>Coenagrion angulatum</i>	S2	N3?
7	Taiga Bluet	<i>Coenagrion resolutum</i>	S3	N5
8	Boreal Bluet	<i>Enallagma boreale</i>	S1	N5
9	Alkali Bluet	<i>Enallagma clausum</i>	S2	N5
10	Western Forktail	<i>Ischnura perparva</i>	SNR	N5
11	Sedge Sprite	<i>Nehalennia irene</i>	S3	N5
12	Canada Darner	<i>Aeshna canadensis</i>	S2	N5
13	Variable Darner	<i>Aeshna interrupta</i>	S2	N5
14	Midland Clubtail	<i>Gomphus fraternus</i>	S3	N5
15	Sulphur-tipped Clubtail	<i>Gomphus militaris</i>	S1	N5
16	Rapids Clubtail	<i>Gomphus quadricolor</i>	S1	N3N4
17	Rusty Snaketail	<i>Ophiogomphus rupinsulensis</i>	S1	N5
18	Pale Snaketail	<i>Ophiogomphus severus</i>	SNR	N5
19	Sioux Snaketail	<i>Ophiogomphus smithi</i>	SNR	N2
20	Westfall's Snaketail	<i>Ophiogomphus westfalli</i>	SNR	N3
21	Brimstone Clubtail	<i>Stylurus intricatus</i>	S1	N4
22	Elusive Clubtail	<i>Stylurus notatus</i>	S3	N3
23	Arrow Clubtail	<i>Stylurus spiniceps</i>	S1	N4
24	Stream Cruiser	<i>Didymops transversa</i>	SNR	N5
25	Royal River Cruiser	<i>Macromia taeniolata</i>	S2	N5
26	Slender Baskettail	<i>Epithea costalis</i>	SNR	N5
27	Smoky Shadowdragon	<i>Neurocordulia molesta</i>	S2	N4
28	Stygian Shadowdragon	<i>Neurocordulia yamaskanensis</i>	S1	N5
29	Plains Emerald	<i>Somatochlora ensigera</i>	S3	N4

	Common Name	Scientific Name	Iowa Rank	National Rank
30	Carolina Saddlebags	<i>Tramea carolina</i>	S1	N5

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Table 3-10. Fish of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	State Status/Listing	National Status/Listing
1	Chestnut lamprey	<i>Ichthyomyzon castaneus</i>	S2 Threatened	N4
2	Northern brook lamprey	<i>Ichthyomyzon fossor</i>	SNR	N4
3	Silver lamprey	<i>Ichthyomyzon unicuspis</i>	S3	N5
4	American brook lamprey	<i>Lampetra appendix</i>	S3 Threatened	N4
5	Lake sturgeon	<i>Acipenser fulvescens</i>	S1 Endangered	N3N4
6	Pallid sturgeon	<i>Scaphirhynchus albus</i>	S1 Endangered	N2 Endangered
7	Shovelnose sturgeon	<i>Scaphirhynchus platyrhynchus</i>	S4	N4
8	Paddlefish	<i>Polyodon spathula</i>	S3	N4
9	American eel	<i>Anguilla rostrata</i>	S3?	N4
10	Skipjack herring	<i>Alosa chrysochloris</i>	S3	N5
11	Largescale stoneroller	<i>Camptostoma oligolepis</i>	S3	N5
12	Gravel chub	<i>Erimystax x-punctatus</i>	S3	N4
13	Western silvery minnow	<i>Hybognathus argyritis</i>	S1	N4
14	Mississippi silvery minnow	<i>Hybognathus nuchalis</i>	S3?	N5
15	Plains minnow	<i>Hybognathus placitus</i>	S4	N4
16	Pallid shiner	<i>Hybopsis amnis</i>	S3	N4
17	Redfin shiner	<i>Lythrurus umbratilis</i>	S4	N5
18	Shoal chub	<i>Macrhybopsis hyostomus</i>	SNR	N5
19	Sturgeon chub	<i>Macrhybopsis gelida</i>	SH	N3
20	Sicklefin chub	<i>Macrhybopsis meeki</i>	S1	N3
21	Pearl dace	<i>Margariscus margarita</i>	S1 Endangered	N5
22	Golden shiner	<i>Notemigonus crysoleucas</i>	S4	N5
23	Pugnose shiner	<i>Notropis anogenus</i>	S1 Endangered	N3
24	River shiner	<i>Notropis blennioides</i>	SNR	N5

	Common Name	Scientific Name	State Status/Listing	National Status/Listing
25	Silverband shiner	<i>Notropis shumardi</i>	SX	N5
26	Ghost shiner	<i>Notropis buchanani</i>	S3	N5
27	Blacknose shiner	<i>Notropis heterolepis</i>	S2 Threatened/ Possibly Extirpated	N4
28	Ozark minnow	<i>Notropis nubilus</i>	S3	N5
29	Carmine shiner	<i>Notropis percobromus</i>	S5	N5
30	Weed shiner	<i>Notropis texanus</i>	S2 Endangered	N5
31	Topeka shiner	<i>Notropis topeka</i>	S2 Threatened	N3 Endangered
32	Mimic shiner	<i>Notropis volucellus</i>	S4	N5
33	Channel shiner	<i>Notropis wickliffi</i>	SNR	N5
34	Pugnose minnow	<i>Opsopoeodus emiliae</i>	S3	N5
35	Suckermouth minnow	<i>Phenacobius mirabilis</i>	S4	N5
36	Southern redbelly dace	<i>Phoxinus erythrogaster</i>	S4	N5
37	Flathead chub	<i>Platygobio gracilis</i>	S3	N5
38	Longnose dace	<i>Rhinichthys cataractae</i>	S3	N5
39	Blue sucker	<i>Cycleptus elongatus</i>	S3	N3
40	Lake chubsucker	<i>Erimyzon succetta</i>	SX	N5
41	Black buffalo	<i>Ictiobus niger</i>	S3	N5
42	Spotted sucker	<i>Minytrema melanops</i>	S3	N5
43	Silver redhorse	<i>Moxostoma anisurum</i>	S4	N5
44	River redhorse	<i>Moxostoma carinatum</i>	SNR	N4
45	Black redhorse	<i>Moxostoma duquesnei</i>	S2 Threatened	N5
46	Brown bullhead	<i>Ameiurus nebulosus</i>	S3	N5
47	Blue catfish	<i>Ictalurus furcatus</i>	S4	N5
48	Slender madtom	<i>Noturus exilis</i>	S3	N5
49	Tadpole madtom	<i>Noturus gyrinus</i>	S3	N5
50	Freckled madtom	<i>Noturus nocturnus</i>	S2 Endangered	N5
51	Redfin (Grass) pickerel	<i>Esox americanus</i>	S3 Threatened	N5
52	Northern pike	<i>Esox lucius</i>	S5	N5
53	Central mudminnow	<i>Umbra limi</i>	S3	N5
54	Brook Trout	<i>Salvelinus fontinalis</i>	S3	N5
55	Trout perch	<i>Percopsis omiscomaycus</i>	S3	N5
56	Pirate perch	<i>Aphredoderus sayanus</i>	S3 Special Concern	N5
57	Burbot	<i>Lota lota</i>	S3 Threatened	N5
58	Brook silverside	<i>Labidesthes sicculus</i>	S4	N5
59	Banded killifish	<i>Fundulus diaphanus</i>	S2?	N5

	Common Name	Scientific Name	State Status/Listing	National Status/Listing
60	Starhead topminnow	<i>Fundulus dispar</i>	SX	N4
61	Blackstripe topminnow	<i>Fundulus notatus</i>	S3	N5
62	Plains topminnow	<i>Fundulus sciadicus</i>	SH	N4
63	Mottled sculpin	<i>Cottus bairdii</i>	S2	N5
64	Slimy sculpin	<i>Cottus cognatus</i>	S3	N5
65	Rock bass	<i>Ambloplites rupestris</i>	S4	N5
66	Northern (longear) sunfish	<i>Lepomis peltastes</i>	SNR	N5
67	Western sand darter	<i>Ammocrypta clara</i>	S2 Threatened	N3
68	Crystal darter	<i>Crystallaria asprella</i>	S1	N3
69	Mud darter	<i>Etheostoma asprigene</i>	S3	N4
70	Rainbow darter	<i>Etheostoma caeruleum</i>	S4	N5
71	Bluntnose darter	<i>Etheostoma chlorosomum</i>	SX Endangered	N5
72	Iowa darter	<i>Etheostoma exile</i>	S4	N5
73	Least darter	<i>Etheostoma microperca</i>	S1 Endangered	N5
74	Orangethroat darter	<i>Etheostoma spectabile</i>	S2 Threatened	N5
75	Banded darter	<i>Etheostoma zonale</i>	S3	N5
76	Logperch	<i>Percina caprodes</i>	S3	N5
77	Blackside darter	<i>Percina maculata</i>	S3	N5
78	Slenderhead darter	<i>Percina phoxocephala</i>	S3	N5
79	River darter	<i>Percina shumardi</i>	S3	N5

Table 3-11. Mammals of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	Iowa Rank/Listing	National Rank/Listing
1	Hayden's Shrew	<i>Sorex haydeni</i>	S4	N4
2	Elliot's Short-tailed Shrew	<i>Blarina hylophaga</i>	SNR	N5
3	Southern Short-tailed Shrew	<i>Blarina carolinensis</i>	SNR	N5
4	Least Shrew	<i>Cryptotis parva</i>	S2 Threatened	N5
5	Northern (Myotis) Long-eared Bat	<i>Myotis septentrionalis</i>	S4	N2N3 Threatened
6	Little Brown Bat	<i>Myotis lucifugus</i>	S4	N3
7	Indiana Bat	<i>Myotis sodalis</i>	S1 Endangered	N2 Endangered
8	Silver-haired Bat	<i>Lasionycteris noctivagans</i>	S4	N5
9	Eastern Pipistrelle	<i>Perimyotis subflavus</i>	S4	N5
10	Evening Bat	<i>Nycticeius humeralis</i>	S3	N5
11	White-tailed Jackrabbit	<i>Lepus townsendii</i>	S3	N5
12	Franklin's Ground Squirrel	<i>Spermophilus franklinii</i>	S3	N5
13	Southern Flying Squirrel	<i>Glaucomys volans</i>	S4 Special Concern	N5
14	Plains Pocket Gopher	<i>Geomys bursarius</i>	S5	N5
15	Plains Pocket Mouse	<i>Perognathus flavescens</i>	S2 Endangered	N5
16	Southern Bog Lemming	<i>Synaptomys cooperi</i>	S3 Threatened	N5
17	Woodland Vole	<i>Microtus pinetorum</i>	S3	N5
18	Gray Fox	<i>Urocyon cinereoargenteus</i>	S3	N5
19	Long-tailed Weasel	<i>Mustela frenata</i>	S4	N5
20	Least Weasel	<i>Mustela nivalis</i>	S3	N5
21	Spotted Skunk	<i>Spilogale putorius</i>	S1 Endangered	N4
22	Ermine	<i>Mustela ermine</i>	S4	N5

Table 3-12. Mussels of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	State Rank/Listing	National Rank/Listing
1	Mucket	<i>Actinonaias ligamentina</i>	S3	N5
2	Elktoe	<i>Alasmidonta marginata</i>	S3	N4
3	Slippershell	<i>Alasmidonta viridis</i>	S1 Endangered Extirpated?	N4
4	Three Ridge	<i>Amblema plicata</i>	SNR	N5
5	Flat Floater	<i>Anodonta suborbiculata</i>	S3	N5
6	Cylinder (Cylindrical Papershell)	<i>Anodontoides ferussacianus</i>	S2 Threatened	N5
7	Rock Pocketbook	<i>Arcidens confragosus</i>	S2	N4
8	Spectacle Case	<i>Cumberlandia monodonta</i>	S1 Endangered	N3 Endangered
9	Purple Wartyback	<i>Cyclonaias tuberculata</i>	S1 Threatened Extirpated?	N5
10	Butterfly	<i>Ellipsaria lineolata</i>	S2 Threatened	N4
11	Elephant Ear	<i>Elliptio crassidens</i>	SX	N5
12	Spike	<i>Elliptio dilatata</i>	S2	N5
13	Snuffbox	<i>Epioblasma triquetra</i>	SX	N3
14	Ebonyshell	<i>Fusconaia ebena</i>	SX	N4N5
15	Wabash pigtoe	<i>Fusconaia flava</i>	S2	N5
16	Higgins' Eye Pearlymussel	<i>Lampsilis higginsii</i>	S1 Endangered	N1N2 Endangered
17	Fatmucket	<i>Lampsilis siliquoidea</i>	SNR	N5
18	Yellow Sandshell	<i>Lampsilis teres anodontoides</i>	S2 Endangered	N5
19	White Heelsplitter	<i>Lasmigona camplanata</i>	S2	N5
20	Creek Heelsplitter	<i>Lasmigona compressa</i>	S2 Threatened	N5

	Common Name	Scientific Name	State Rank/Listing	National Rank/Listing
21	Fluted Shell	<i>Lasmigona costata</i>	S2	N5
22	Pondmussel	<i>Ligumia subrostrata</i>	SX	N5
23	Black Sandshell	<i>Ligumia recta</i>	S1	N4N5
24	Washboard	<i>Megalonaias nervosa</i>	S4	N5
25	Threehorn Wartyback	<i>Obliquaria reflexa</i>	S1	N5
26	Hickorynut	<i>Obovaria olivaria</i>	SNR	N4
27	Bullhead (Sheepnose)	<i>Plethobasus cyphus</i>	S1 Endangered	N3 Endangered
28	Pyramid pigtoe	<i>Pleurobema rubrum</i>	SX	N2N3
29	Round pigtoe	<i>Pleurobema sintoxia</i>	S1 Endangered	N4N5
30	Pink Heelsplitter	<i>Potamilus alatus</i>	S2	N5
31	Pink Papershell	<i>Potamilus ohioensis</i>	SNR	N5
32	Monkeyface	<i>Quadrula metanevra</i>	S2	N4
33	Wartyback	<i>Quadrula nodulata</i>	S1	N4
34	Pimpleback	<i>Quadrula pustulosa</i>	S2	N5
35	Mapleleaf	<i>Quadrula quadrula</i>	SNR	N5
36	Salamander mussel	<i>Simpsonaias ambigua</i>	SX	N1
37	Strange Floater (Creeper, Formerly Squawfoot)	<i>Strophitus undulatus</i>	S2 Threatened	N5
38	Pistolgrip	<i>Tritogonia verrucosa</i>	S1 Endangered	N4
39	Fawnsfoot	<i>Truncilla donaciformis</i>	SNR	N5
40	Deertoe	<i>Truncilla truncata</i>	S1	N5
41	Pondhorn	<i>Unio merus tetralasmus</i>	SNR	N5
42	Paper Pondshell	<i>Utterbackia imbecillis</i>	SNR	N5
43	Ellipse	<i>Venustaconcha ellipsiformis</i>	S2 Threatened	N4

Table 3-13. Terrestrial Snails of Greatest Conservation Need

Iowa Rank, National Rank: NatureServe Conservation Status Ranks. S1/N1 = Critically Imperiled in Nation (N) or State (S). S2/N2 = Imperiled in Nation (N) or State (S). S3/N3 = Vulnerable in Nation (N) or State (S). S4/N4 = Apparently Secure in Nation (N) or State (S). S5/N5 = Secure in Nation (N) or State (S). For additional definitions and explanation see Appendix 11.

Iowa Listing: Iowa Endangered, Threatened, or Special Concern Status (from Iowa Code Chapter 77) as of 2015. For up-to-date information, please see the Threatened and Endangered Species Program page on the DNR website at www.iowadnr.gov

Rows highlighted in gray: indicate data deficient SGCN for which information needed to assess conservation status is lacking.

Due to independent timeframes for review of NatureServe State Ranks (S Ranks) and State T&E Species lists, State T&E Status, Nature Serve S Ranks, and SGCN status may not always appear to be in accord.

	Common Name	Scientific Name	Iowa Listing	National Rank/Listing
1	Iowa Pleistocene Snail	<i>Discus macclintocki</i>	Endangered	N1 Endangered
2	Minnesota Pleistocene Succinea	<i>Novasuccinea n. Sp. Minnesota a</i>	Endangered	N2
3	Iowa Pleistocene Succinea	<i>Novasuccinea n. Sp. Minnesota b</i>	Endangered	NNR
4	Hubricht's Vertigo	<i>Vertigo hubrichti</i>	Threatened	N3
5	Bluff Vertigo	<i>Vertigo meramecensis</i>	Endangered	N2

The previous version of the IWAP listed eight species of Terrestrial Land Snails as SGCN, all of which were listed as state Threatened or Endangered. Since that time, the scientific literature has indicated that Frigid Ambersnail (*Catinella gelida*) is not a valid species, and that both the Iowa Pleistocene Vertigo (*Vertigo iowaensis*) and the Briarton Pleistocene Snail (*Vertigo briarensis*) are actually the same species as Hubricht's Vertigo (*Vertigo hubrichti*).

Specific resources utilized by each taxonomic subcommittee during SGCN assessment:

Amphibians and Reptiles. References used by the Amphibian and Reptile Subcommittee include:

- A Field Guide to the Amphibians and Reptiles of Iowa, LeClere(2013);
- Iowa Multiple Species Inventory and Monitoring Program ;
- Christiansen and Bailey (1986, 1988, and 1991);
- NatureServe National and Sub-national Heritage Status Rankings;
- Partners for Amphibian and Reptile Conservation: www.parcplace.org

Birds. The distribution and abundance of birds in Iowa is better understood than any other taxa considered in the IWAP. As a result the Bird Subcommittee had many sources of information to consult. References utilized by the Bird Subcommittee include:

- *Birds of Iowa* (Kent and Dinsmore 1996);
- *Iowa Birds* (Dinsmore et al. 1984);
- Iowa Multiple Species Inventory and Monitoring Program;
- *The Iowa Breeding Bird Atlas* (Jackson et al. 1996) and *The Iowa Breeding Bird Atlas II (in press)*;
- *Trends in Iowa Wildlife Populations and Harvest*;
- USGS Breeding Bird Survey;
- NatureServe National and Sub-national Heritage Status Rankings;
- *The State of the Birds* Annual Reports;
- Partners in Flight Bird Landbird Conservation Plans for Iowa Physiographic Areas;
- USFWS Region 3 Birds of Conservation Concern (2008);
- North American Waterfowl Management Plan (2012);
- North American Waterbird Conservation Plan (2002);
- United States Shorebird Conservation Plan (2002);
- North American Landbird Conservation Plan (2004);
- Upper Mississippi-Great Lakes Joint Venture 2007 Conservation Strategies (Landbird, Shorebird, Waterfowl, Waterbird);
- Prairie Pothole Joint Venture Implementation Plans 2005 (Landbirds, Shorebird, Waterbird, Waterfowl);
- The Prairie-Forest Border Ecoregion: A Conservation Plan (The Nature Conservancy);
- Partners In Flight *Saving Our Shared Birds* (2010);
- Iowa Important Bird Area Priority Birds List (Audubon).

Butterflies. References used by the Butterfly Subcommittee include:

- The Butterflies of Iowa - Schlicht et al. (2007)
- Schlicht and Orwig (1998)
- Iowa Multiple Species Inventory and Monitoring Program

- Selby (2010)
- Swengel et al. (2011)
- Iowa Butterfly Survey Network

Dragonflies and damselflies. References used by the Dragonfly and Damselfly Subcommittee include:

- Cruden and Gode (2000)
- Iowa Odonata Survey: www.iowaodes.org
- Odonata Central: www.odonatacentral.org
- Iowa Multiple Species Inventory and Monitoring Program

Fish. References used by the Fish Subcommittee include:

- Harlan and Speaker (1987)
- Wilton (2004)
- Iowa Biological Stream Monitoring Database (BioNet): the portal for all data collected as part of the state's Biological Monitoring and Assessment programs
- Iowa Aquatic Gap (Loan-Wilsey et al. 2005)
- Heitke et al. (2006)
- Sindt et al. (2011)
- Parks et al. (2014)

Mammals. References used by the Mammal Subcommittee include:

- Bowles *et al.* (1998)
- Iowa Multiple Species Inventory and Monitoring Program
- Trends in Iowa Wildlife Populations and Harvest;
- NatureServe National and Sub-national Heritage Status Rankings;

Mussels. References used by the Mussel Subcommittee include:

- Frest (1987)
- Arbuckle and Downing (2000)
- Poole and Downing (2004)
- Heidebrink (2002)
- Hoke (2009)
- Statewide Freshwater Mussel Survey (J. Kurth)
- Mississippi River mussel sampling data (S. Gritters)
- Iowa Multiple Species Inventory and Monitoring Program

Terrestrial Snails. Comparatively little is known about the distribution and status of this group in Iowa. References used by the Land Snail Subcommittee Include:

- Frest (1987 and 1991)
- Nekola and Coles (2010)
- Clark et al. (2008)
- Turgeon et al. (1998)
- The Poweshiek Skipper Project website has a section dedicated to Iowa's terrestrial snails:
<http://www.poweshiekskipper.org/biodiversity/land%20snails.html>

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